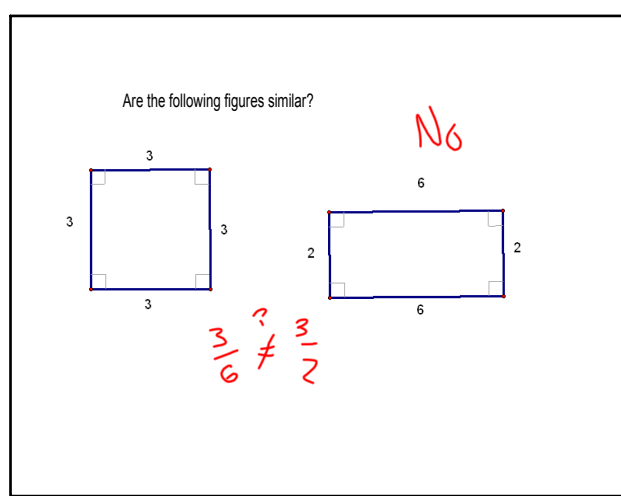
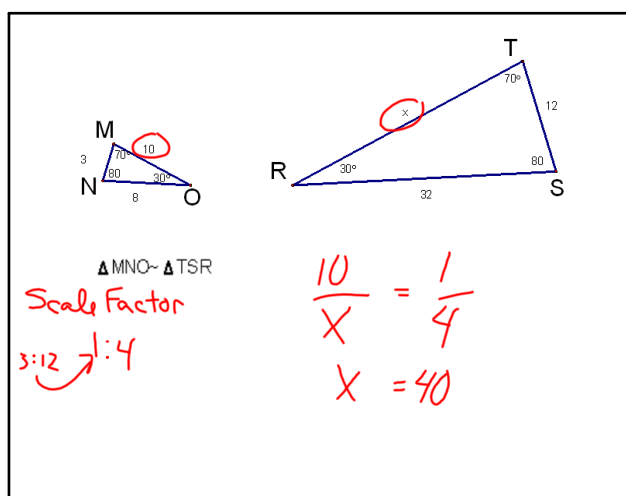
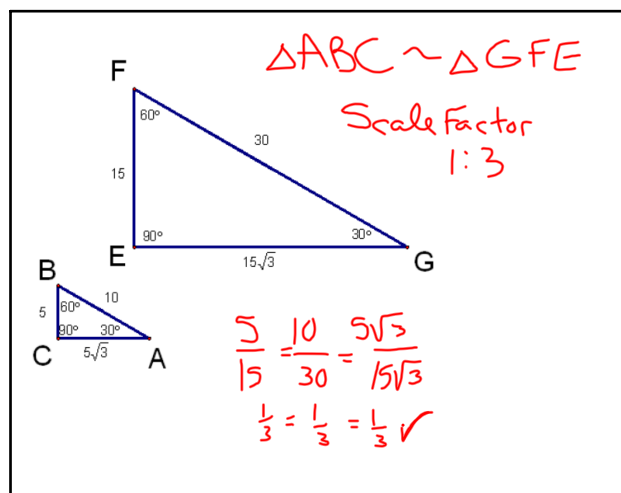


## 6-2 Similar ~ Polygons

~ → similar

Two polygons are ~, if

1. corresponding  $\angle$ s are  $\cong$
2. corresponding sides are proportional



Are the following figures similar?

$\frac{3}{4} \cdot \frac{16}{8} = \frac{4}{5\frac{1}{3}}$

$\frac{3}{4} \cdot \frac{4}{\frac{16}{3}} = \frac{16}{16}$

$16 = 16$

Yes

Are the following figures similar?

Yes

$\frac{3.9}{5.2} = \frac{5.25}{7} = \frac{6}{8}$

$\frac{3}{4} = \frac{3}{4} = \frac{3}{4}$

The pentagons are similar. Solve for x.

Scale Factor

$\frac{4}{6} = \frac{2}{3}$

$\frac{x}{3} = \frac{8}{y+1} = \frac{6}{4}$

$\frac{x}{3} = \frac{6}{4}$

$x = 4.5$

$\frac{8}{y+1} = \frac{6}{4}$

$y = 4\frac{1}{3}$

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Determine whether each pair of figures is similar. Justify your answer.

4.

Yes  
 $\angle s \cong$   
 S.P. 3:1

5.

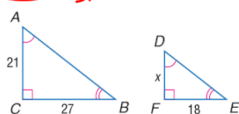
$\angle s \cong$   
 Yes

$\frac{3}{6} = \frac{4}{9/2}$

$18 = 18 \checkmark$

Each pair of polygons is similar. Write a similarity statement, and find  $x$ , the measure(s) of the indicated side(s), and the scale factor.

6.  $\overline{DF}$   $DF = 14$



S.F.  
1:2

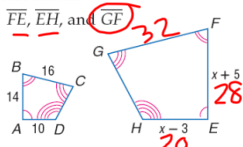
$$\triangle ABC \sim \triangle DEF$$

$$\frac{21}{27} = \frac{x}{18}$$

$$14 = x$$

$$\text{S.F. } 3:2$$

7.  $\overline{FE}$ ,  $\overline{EH}$ , and  $\overline{GF}$



$$\text{poly } ABCD \sim \text{poly } EFGH$$

$$\frac{14}{x+5} = \frac{10}{x-3}$$

$$\frac{14}{10} = \frac{x+5}{x-3}$$

$$\frac{7}{5} = \frac{x+5}{x-3}$$

$$7(x-3) = 5(x+5)$$

$$7x - 21 = 5x + 25$$

$$2x = 46$$

$$x = 23$$

Homework

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#s 11-15, 17-20, 34-38